

# WATER QUALITY REPORT

FOR BLOOMINGTON, MN • 2008 TEST RESULTS



JUNE 2009

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## ENSURING YOUR SAFETY

### BLOOMINGTON'S WATER SURPASSED ALL REQUIREMENTS

**A**T THE CITY OF BLOOMINGTON, our goal is to provide you with high-quality, safe, reliable drinking water that meets every federal and state water quality requirement. This report contains information about the sources, treatment process and history of our water system. The page four summary provides the results of water quality monitoring on Bloomington's water sources from January 1 to December 31, 2008, by the Minnesota Department of Health, the city of Minneapolis and our own laboratories. We also answer the most common questions that people have about our water. This report is meant to advance your understanding of drinking water and heighten awareness of the need to protect precious water resources.

## GET INVOLVED

**Y**OUR WATER MEETS all federal, state and local guidelines. Public Works welcomes your input on water quality issues. For information, contact Water Quality Supervisor Jon Eaton at 952-563-4501.

If you have questions about your water or need assistance, please give us a call or visit the City's website at [www.ci.bloomington.mn.us](http://www.ci.bloomington.mn.us), keywords: Water Plant.

**Water Plant (24 hours a day)**  
952-563-4905  
TTY (8 a.m. to 4:30 p.m., M-F)  
952-563-8740

**Este informe contiene información muy importante. Si necesita una traducción del mismo, sírvase llamar al 952-563-4957 V/TTY.**

**Bản báo cáo này có các thông tin rất quan trọng. Nếu quý vị cần bản dịch tiếng Việt, xin gọi số 952-563-4957 V/TTY.**

**Warbixintaan waxaa ku jira macluumaad aad muhiim u ah. Haddii aad u baahan tahay in laguu turjumo, fadlan la xiriir 952-563-4957 V/TTY.**

## DRINKING WATER BASICS

### BOTTLED WATER VS. TAP WATER: KNOW THE FACTS

**A**MERICANS SPEND BILLIONS of dollars each year to buy bottled water. According to the Environmental Protection Agency (EPA), bottled water is the fastest growing drink in the United States. Some people drink it as an alternative to other beverages; others prefer its taste or think it is safer than their tap water. Whether it travels through a pipe to your home or comes packaged in a bottle, safe drinking water is essential to good health.

Drinking water (both bottled and tap) contains small amounts of some contaminants. Their presence does not necessarily indicate that the water poses a health risk. Minerals such as magnesium and calcium give water a distinctive flavor and are essential to the body. However, at high levels, these and other contaminants such as pesticides or microbes from human wastes can cause adverse effects or illness.

To make sure that all water is safe to drink, the EPA and the U.S. Food and Drug Administration (FDA) set drinking water standards. The EPA sets standards for tap water provided by public water suppliers. The FDA sets standards for bottled water based on the EPA's standards. Bottled and tap water are both safe to drink if they meet these standards, although people with severely weakened immune

systems or other health conditions may wish to filter their water.

The FDA regulates bottled water as a packaged food under the Federal Food, Drug and Cosmetic Act. The FDA has also established good manufacturing practice requirements for processing and bottling drinking water.

#### COST

Bottled water is much more expensive than tap water. See right.

#### TASTE

One of the key taste differences between tap and bottled water is how the water is disinfected. Tap water may be disinfected with chlorine, chloramine, ozone or ultraviolet light to kill disease-causing germs. Water systems use chlorine and chloramine because they are effective and inexpensive and they continue to disinfect as water travels through pipes to homes and businesses. Bottled water is typically disinfected using ozone or other technologies such as ultraviolet light or chlorine dioxide. Ozone is preferred by bottlers, though it is more expensive, because it does not leave a taste and bottlers do not need to maintain disinfectant in the container. Untreated water, whether from a bottle or a tap, will have the characteristic taste of its source.



#### Cost per serving

Product	240ml*	Source
Bloomington tap water	\$0.0001	Public supply
PUR Fm-8100 **	\$0.0168	Public supply
Brita Slim **	\$0.0186	Public supply
Glenwood	\$0.0476	Spring
Kandiyohi	\$0.0545	Distilled
Ice Mountain	\$0.1496	Spring
Aquafina	\$0.1691	Public supply
Dasani	\$0.2632	Public supply
Glaceau Smart Water	\$0.3808	Distilled
Fiji Artesian Water	\$0.4200	Artesian
Evian	\$0.4752	Spring
Perrier	\$0.4776	Spring

\* Approximately 8 oz.

\*\* Point-of-use filters used to treat drinking water at consumption to improve taste.

#### BLOOMINGTON WATER

To learn more about the quality of Bloomington's tap water, read this *Water Quality Report*. If your water comes from a household well, the City recommends testing it regularly for bacteria, nitrates and other contaminants.

## WELLHEAD PROTECTION OF PUBLIC WATER SUPPLY WELLS

### EVERYONE BENEFITS!

**W**ELLHEAD PROTECTION prevents contaminants from entering the area that contributes water to the public water supply well or well field. These areas are determined by geologic and hydrologic criteria, such as the physical characteristics of the aquifer and the effects that pumping has on the rate and direction of groundwater movement. A management plan is developed for the wellhead protection area that identifies potential sources of groundwater contamination, monitors for the presence of specific contaminants, and manages existing and future land and water uses that pose a threat to groundwater quality.

The Minnesota Groundwater Protection Act of 1989 granted the Commissioner of Health authority to develop wellhead protection measures for wells serving public water supplies; *this rule does not apply to private wells*. This action was in response to the 1986 amendment to the federal Safe Drinking Water Act in which states are required to implement wellhead protection



programs for public water supply wells. Minnesota Rules, parts 4720.5100 to 4720.5590, constitute the Minnesota Wellhead Protection Program.

While a wellhead protection plan gives owners of public water supply wells a useful "tool" for providing a safe drinking water supply to their customers, the long-term goals are beneficial to all residents of Minnesota. These goals:

- Reduce the use of costly treatment facilities.
- Avoid the need to drill new wells.
- Avoid the need to clean up contaminated groundwater.

If you would like more information about wellhead protection, contact

#### YOU CAN HELP SAFEGUARD WATER

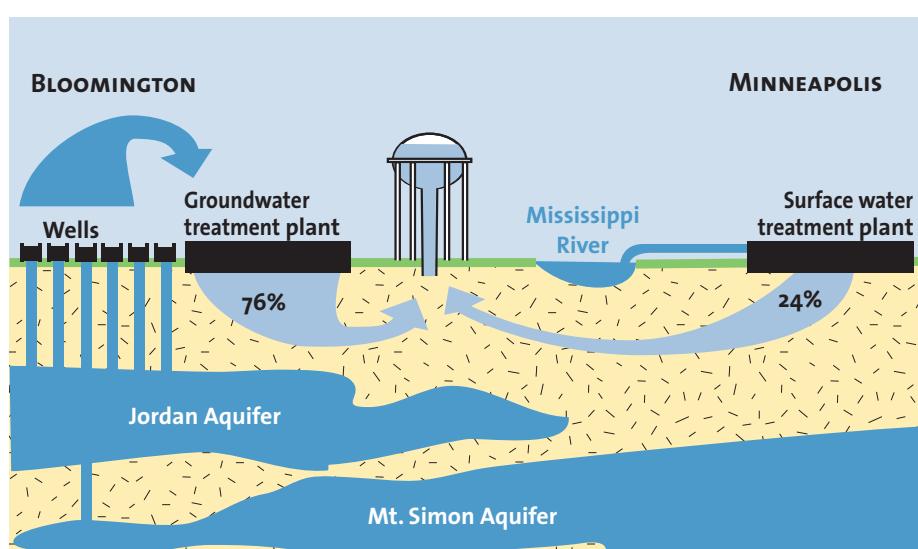
It is important to manage all sources of pollution on your property. Street litter, motor oil, antifreeze, pesticides, herbicides, fertilizers, yard and pet waste and paint are pollutants that find a way into the drinking water source.

Questions on proper disposal can be directed to Hennepin County at 612-348-3777.

Glen Gerads at 952-563-8775 or the Minnesota Department of Health Source Water Protection Unit at 651-201-4700.



## WHERE DOES YOUR TAP WATER COME FROM?



### WATER FACTS

- Roughly 70 percent of an adult's body is made up of water.
- At birth, water accounts for approximately 80 percent of an infant's body weight.
- A healthy person can drink about three gallons (48 cups) of water per day.
- Drinking too much water too quickly can lead to water intoxication that occurs when water dilutes the sodium level in the bloodstream and causes an imbalance of water in the brain. Water intoxication is most likely to occur during periods of intense athletic performance.
- While the daily recommended amount of water is eight cups per day, not all of this water must be consumed in the liquid form. Nearly every food or drink item provides some water to the body.



**R**EMODELED IN 2002, the Sam H. Hobbs Water Treatment Plant can produce up to 14 million gallons of treated, drinkable water per day.

### BLOOMINGTON WELLS 76 PERCENT IN 2008

Our water plant draws raw (untreated) groundwater from six deep wells. The wells extend downward between 376 and 963 feet into the Jordan, Prairie du Chien-Jordan, Franconia-Mount Simon and Jordan-St. Lawrence Aquifers, porous underground rock formations that hold vast amounts of water. The Midwest has a very rich water supply.

The City drew 3.5 billion gallons of water, 76 percent of Bloomington's needs, from these deep groundwater wells in 2008.

### MISSISSIPPI RIVER 24 PERCENT IN 2008

To meet demand in excess of our production capabilities during peak periods, Bloomington purchases treated water from the city of Minneapolis. Treated water from our plant is blended with similarly treated water from Minneapolis and sent throughout Bloomington's distribution system. All of our consumers receive a blend of water from these two sources.

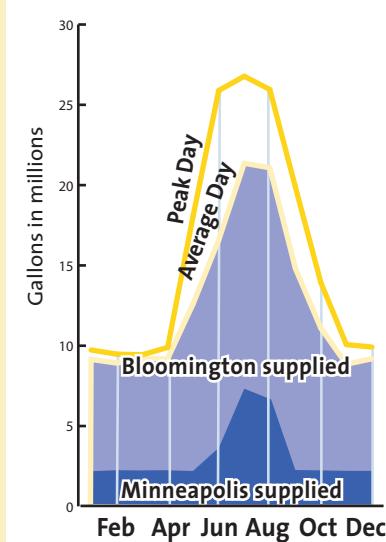
Minneapolis' surface water treatment plant takes its raw water from the Mississippi River. In 2008, the City purchased 1.12 billion gallons of water from Minneapolis, which supplied the remaining 24 percent of our water needs.

### HOW MUCH IS USED?

In 2008, residents and businesses in Bloomington used 4.6 billion gallons of water, about 200 million less than 2007. This averaged out to 12.7 million gallons of water per day last year.

The chart below shows the peak day and average day of water use for each month during 2008, as well as the average amount of water treated at our plant and purchased from Minneapolis. To get a more accurate picture of the actual amounts of water consumed, peak day data was adjusted to account for fluctuations in our reservoir levels.

2008 Daily water use



## OUR WATER TREATMENT PROCESS

**1** Treatment begins when lime, in the form of slaked quicklime, is mixed with raw water in one of our two contact solids basins. Each basin holds about half a million gallons of water.

**2** The lime-and-water mixture causes the pH in the basins to rise, and calcium and magnesium (the main components of hardness) to form insoluble particles called flocs. As these floc particles grow in size, they settle to the bottom of the contact solids basins. The solids are removed, dewatered and used as a USDA-approved source of lime by Minnesota farmers to stabilize the pH in farm fields.

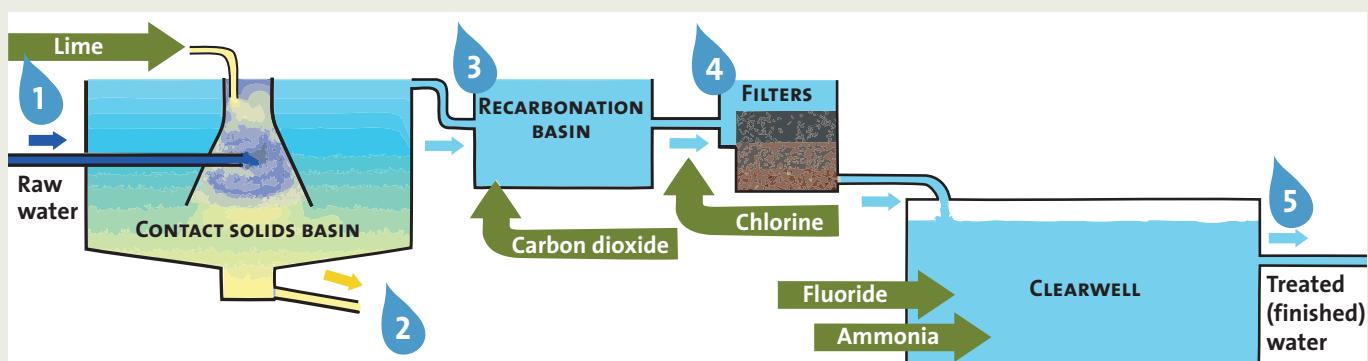
**3** The water enters a recarbonation basin where it is adjusted to the proper pH by adding carbon dioxide. A precise amount of chlorine is added to discourage bacterial growth as the water travels through our distribution system.

**4** The water is filtered to remove any remaining particles. And finally, it enters an underground reservoir called a clearwell where small quantities of fluoride and ammonia are added. Fluoride promotes strong teeth and bones; ammonia works with the chlorine as a disinfectant. Now softened and disinfected, the water is ready for use by Bloomington residents and businesses.

### BLOOMINGTON WATER IS HOW SOFT?

Bloomington is one of the few water utilities in Minnesota that supplies softened water, saving consumers time and money. Untreated groundwater enters the water plant with a hardness of about 19 grains (320 parts per million). Our treatment process reduces the water's hardness to about 5.2 grains (90 parts per million).

**5** The finished water from our treatment plant is pumped into the distribution system, where it is mixed with treated water purchased from the city of Minneapolis.



**St. Cloud  
Technical  
College**

### A CAREER IN THE WATER INDUSTRY IS WAITING FOR YOU!

**S**T. CLOUD TECHNICAL COLLEGE's Water Environment Technologies (WETT) program provides you with the skills you need to land a great job in this rapidly growing industry.

There are many benefits to this program:

- Hands-on learning.
- 12-month program.
- Metro and St. Cloud locations.
- 100 percent placement rates.

CALL ST. CLOUD TECHNICAL COLLEGE TODAY AT 1-800-222-1009, EXT. 5952

## FAQs: FREQUENTLY ASKED QUESTIONS ABOUT BLOOMINGTON'S WATER



### SHOULD I GET A WATER FILTRATION SYSTEM FOR MY HOME?

**B**ECAUSE BLOOMINGTON'S WATER surpasses all federal and state standards, home filtration systems are not necessary. However, if you choose to purchase a filtration system for aesthetic or medical reasons, keep the following in mind:

- Find out if the filter you are considering is capable of removing substances that concern you.
- Look for filters that have been certified by NSF International (an independent testing group) and Underwriters Laboratory (UL).
- Follow the manufacturer's maintenance instructions carefully. When not properly maintained and serviced, filtration systems can harbor disease-causing bacteria that are not otherwise in the City's water supply.



### DO I NEED A HOME WATER SOFTENING SYSTEM?

**O**UR LIME-SOFTENING PROCESS removes most of the hardness in Bloomington's water, reducing it from 19 grains per gallon (raw water) to about 5.2 grains per gallon (finished water). The water is also treated to be noncorrosive. This helps prevent unsafe levels of lead and copper from leaching into the water from home plumbing. Home softening systems can further reduce water hardness, usually by adding a small amount of sodium.

### OTHER QUESTIONS?

**F**EEL FREE TO CONTACT US at any time with your questions about drinking water. Our water plant's telephone number is 952-563-4905, or visit our website, keywords: Water treatment.

### WHY IS THE WATER FROM MY FAUCET CLOUDY?

**O**CASIONALLY WE RECEIVE CALLS reporting water that appears cloudy or milky. Usually indicating the presence of either oxygen or calcium, cloudy water is perfectly safe to drink.

**Oxygen in water:** Sometimes water fresh from the tap appears cloudy. Within a minute or two, the cloudiness rises toward the top of a glass and before long the whole glass is crystal clear. This is caused by excess oxygen escaping from the water.

Changes in water temperature and pressure can cause the oxygen dissolved in it to reach a "supersaturated" state where more oxygen is in the water than it can hold. When the water passes through a faucet, the disturbance is enough to release the excess oxygen out of the water, forming microscopic bubbles. The bubbles are so tiny that it takes them a long time to rise through the water. No harm will come from using oxygenated water and you need not take any corrective action if you experience it.

**Calcium in water:** The chemistry of water is surprisingly complex and many factors influence how it behaves. We treat Bloomington's water so that it is slightly prone to deposit a trace of calcium sediment as it travels through our distribution system. This helps to keep our water from becoming corrosive and reduces the likelihood that it might attack our water mains or leach lead or copper from our customers' plumbing and fixtures. *See below.* Usually, this calcium sediment remains at the bottom of the water mains, unnoticed by our water users.



However, the calcium can be stirred up when a large volume of water is drawn through a water main in a short time. Events that can increase water velocity include firefighting, main breaks, hydrant maintenance and water or street-cleaning trucks' tanks that are filled at a hydrant. If you happen to turn on your cold water right after such an event, you may draw some of the stirred-up water into your pipes.

When calcium causes cloudiness, it is usually noticed in cold water. Let a glassful of the cloudy water sit for about 30 minutes and the calcium, appearing as a white or grayish substance, may settle to the bottom of the glass. Though it may be visually unappealing, such water is perfectly safe to drink or use for cooking.

To clean calcium sediment from your system, we recommend that you wait an hour or two to allow the water in the main to settle. Then, open a large faucet, such as a bathtub faucet, and let the cold water run for about 20 minutes. This will draw clean water through your system and should remove any remaining calcium from your pipes.

Please call us if you have any concerns or if your water remains cloudy after taking these steps.

### WHAT CAN I DO TO MINIMIZE EXPOSURE TO LEAD?

**T**HE PRESENCE OF LEAD ranks among the most common health concerns people have about drinking water. Recent studies suggest that levels of lead once thought to be safe can pose dangers, especially to unborn babies and children. Fortunately, over years of regular and rigorous monitoring, the City of Bloomington's water has never been found to be a significant source of lead.

In fact, lead pipes, solder, brass faucets and other plumbing in your home pose the greatest threat of adding dangerous levels of lead to your water. A few simple practices can minimize your

exposure to lead from your home. First, always use cold water for your cooking and drinking. If your plumbing contains lead, hot water will draw more lead out of it. Second, allow your cold water to run for 30 seconds to two minutes. This flushes out any water that may have been in your pipes long enough to pick up higher concentrations of lead.

For more information, call the Safe Drinking Water Hotline at 1-800-426-4791 or visit [www.epa.gov/safewater/lead](http://www.epa.gov/safewater/lead). If you are concerned about your home's lead levels, our laboratory can test your water for a fee.

**Less than 1 percent of the water supply on earth can be used as drinking water.**

**If the entire world's water were to fit into a gallon jug, the fresh water available for us to use would equal only about one tablespoon.**

**Over 90 percent of the world's supply of fresh water is located in Antarctica.**



### IMPORTANT INFORMATION

#### FOR PEOPLE WITH COMPROMISED IMMUNE SYSTEMS

**S**OME PEOPLE MAY be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants, can be particularly at risk of infections.

These people should seek advice about drinking water from their health care providers. Environmental Protection Agency and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline: 1-800-426-4791.

#### LEAD IN WATER

**I**F PRESENT, infants and children who drink water containing lead in excess could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Lead in drinking water is primarily from the components associated with service lines and home plumbing. The City is responsible for providing high quality drinking water, but cannot control the materials used in plumbing. When your water has been sitting for hours, minimize potential lead exposure by flushing the tap for 30 seconds to two minutes. If you are concerned about lead in your water, you may have your water tested.

Information on lead in drinking water, testing methods and steps to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

# BLOOMINGTON'S WATER IS REGULARLY TESTED



## WATER PURITY INFORMATION PROVIDED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**D**RINKING WATER SOURCES in the United States, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over or through the ground, it dissolves naturally occurring minerals and, sometimes, radioactive material. Water also picks up substances resulting from animal or human activity.

To ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) regulates the amounts of certain contaminants in water provided by public systems. The Food and Drug Administration regulates contaminants in bottled water to provide the same public health protection.

Drinking water, including bottled water, may be expected to contain reasonably small amounts of some contaminants. Their presence does not necessarily indicate that the water poses a health risk. Information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

### CONTAMINANTS THAT MAY BE PRESENT IN SOURCE UNTREATED WATER

**M**ICROBIAL CONTAMINANTS, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

**Inorganic contaminants**, such as salts and metals, can occur naturally or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.

**Pesticides and herbicides** come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

**Organic chemical contaminants**, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

**Radioactive contaminants** can occur naturally or be the result of oil and gas production and mining activities.

## 2008 WATER QUALITY RESULTS

**T**HE MINNESOTA DEPARTMENT of Health and City staff regularly test samples of Bloomington's water for many contaminants. No contaminants were detected at levels that exceeded state or federal standards. Some substances were detected in trace amounts below the maximum allowed in drinking water. Only those substances that were detected appear on the table; many results are not listed because the substances were not found at any time in 2008 by tests designed to detect them. Some substances are tested less than once per year; in such cases, the most

recent results and the test dates are reported.

Some contaminants do not have Maximum Contaminant Levels (MCL) established. These "unregulated contaminants" are assessed using federal standards known as health risk limits to determine if they pose a threat. If unacceptable levels of an unregulated contaminant are found, the response is the same as if an MCL has been exceeded; the water system must inform its customers and take corrective actions.

The table's upper portion summarizes test results performed on Bloomington water. The lower portion

shows results for Minneapolis water because we blend Minneapolis treated surface water with our water plant's treated groundwater.

The Minnesota Department of Health has made a determination as to how vulnerable Bloomington's source water may be to future contamination incidents. If you wish to obtain the entire source water assessment, please call 651-201-4700 or 1-800-919-9318 (and press 5) during normal business hours or view the assessment online at <http://www.health.state.mn.us/divs/eh/water/swp/swa>.

Detected substance	Amount detected	Allowed (MCL)	Ideal (MCLG)	Typical source of substance	Type	Meets standards?
<b>CITY OF BLOOMINGTON</b>						
Arsenic (ppb) (09/05/2006)	1.7	10	0	Erosion of natural deposits	R	Yes
Chlorine (ppm)	Avg. = 2.2 (1.4 to 2.7)	4 MRDL	4 MRDLG	Water additive used to control microbes	R	Yes
Copper (ppm)	0.02 (0 of 30 sites over AL)	AL = 1.3	NA	Corrosion of household plumbing systems; erosion of natural deposits	NR	Yes
Fluoride (ppm)	Avg. = 1.0 (0.9 to 1.1)	4	4	Added for strong teeth/bones; erosion of natural deposits	R	Yes
Haloacetic Acids (HAA) (ppb)	Avg. = 0.8 (nd to 1.8)	60	0	Chlorination by-product	R	Yes
Lead (ppb)	4.0 (0 of 30 sites over AL)	AL = 15	NA	Corrosion of household plumbing systems; erosion of natural deposits <i>See page WQR3.</i>	R	Yes
Sodium (ppm)	5.4	NR	NR	Erosion of natural deposits	NR	Yes
Sulfate (ppm)	12.6	NR	NR	Erosion of natural deposits	NR	Yes
Trihalomethanes (TTHM) (ppb)	Avg. = 2.1 (0.6 to 4.0)	80	0	Chlorination by-product	R	Yes
<b>CITY OF MINNEAPOLIS</b>						
Chlorine (ppm)	Avg. = 2.8 (0.5 to 3.2)	4 MRDL	4 MRDLG	Water additive used to control microbes	R	Yes
Copper (ppm) (8/14/2006)	0.12 (0 of 50 sites over AL)	AL = 1.3	NA	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Fluoride (ppm)	Avg. = 1.0 (0.3 to 1.1)	4	4	Added for strong teeth/bones; erosion of natural deposits	R	Yes
Haloacetic Acids (HAA5) (ppb)	Avg. = 27 (nd to 53)	60	0	Chlorination by-product	R	Yes
Lead (ppb) (8/14/2006)	5 (3 of 50 sites over AL)	AL = 15	NA	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Nitrate (as Nitrogen) (ppm)	0.22	10	10	Fertilizer runoff; leaching of septic or sewer; erosion of natural deposits	NR	Yes
Sodium (ppm)	9.9	NR	NR	Erosion of natural deposits	NR	Yes
Sulfate (ppm)	26	NR	NR	Erosion of natural deposits	NR	Yes
Trihalomethanes (TTHM) (ppb)	Avg. 35 (7 to 57)	80	0	Chlorination by-product	R	Yes
Turbidity (NTU)	Max: 0.2 (limit met 100%)	TT	NA	Soil runoff	R	Yes
Total Coliform Bacteria (cfu)	1%	5%	0	Bacteria naturally present in the environment	R	Yes

### KEY

<b>MCL</b>	<b>Maximum Contamination Level.</b> The highest level allowed in drinking water. MCLs are set as close to MCLG as feasible using the best available treatment technology.	<b>NA</b>	<b>Not Applicable.</b>	<b>NTU</b>	<b>Nephelometric Turbidity Unit.</b> A measure of water clarity.
		<b>AL</b>	<b>Action Level.</b> An amount that, if exceeded, triggers a specific response that a water system must follow.	<b>pCi/L</b>	<b>Picocuries Per Liter.</b> Measures radioactivity.
		<b>TT</b>	<b>Treatment Technique.</b> A required process intended to reduce the level of a contaminant.	<b>MRDL</b>	<b>Maximum Residual Disinfectant Level.</b>
		<b>ppb</b>	<b>Parts Per Billion.</b> Units of a substance, in pure form, found in every billion units of water.	<b>MRDLG</b>	<b>Maximum Residual Disinfectant Level Goal.</b>
		<b>ppm</b>	<b>Parts Per Million.</b> Units of a substance, in pure form, found in every million units of water.	<b>90%</b>	This is the value obtained after disregarding the 10 percent of the samples taken that had the highest levels.
<b>NR</b>	<b>Not Regulated,</b> but monitoring is required by the State of Minnesota. No limits have been set for this compound.	<b>cfu</b>	<b>Colony Forming Unit.</b>	<b>nd</b>	<b>No Detection.</b>
<b>R</b>	<b>Regulated.</b>				